AMENDMENTS TO THE CLAIMS:

1.(currently amended): A data transmission method comprising the steps of:

controlling switching of connections between a plurality of input ports, and an output window part having a plurality of buffers in accordance with data storage states of the plurality of buffers;

causing data from the plurality of input ports to be stored into buffers that have available areas, without detecting a head part of the data, said buffers being included in the plurality of buffers; and

multiplexing the data read from the buffers in time division multiplexing for transmission;

wherein the plurality of buffers include a plurality of output buffers for each of priority types, and the switching of the connections is controlled to cause the data from the plurality of input ports to be stored into a buffer which is included in the plurality of output buffers and has an available area in accordance with storage states of the plurality of output buffers for each of the priority types.

2.(currently amended): A transmission apparatus comprising:

an input port part having a plurality of input ports;

an output window part having a plurality of buffers;

a switch part making connections between the plurality of input ports and the plurality of buffers;

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a selection control circuit controlling the switch part so that data from the plurality of input ports are stored, without detecting a head part of the data, into buffers that have available areas among the plurality of buffers in accordance with data storage states of the plurality of buffers; and

a time division multiplexing part multiplexing the data read from the plurality of buffers in time division multiplexing for transmission;

wherein the output window part includes a plurality of buffers for each of priority types, and the selection control circuit controls the switch part to cause the data from the plurality of input ports to be stored into a buffer which is included in the plurality of buffers and has an available area in accordance with storage states of the plurality of buffers for each of the priority types.

Claim 3.(canceled):

4.(original): The transmission apparatus as claimed in claim 2, wherein:

the output window part includes a plurality of buffers for each of data types; and

the selection control circuit controls the switch part to cause the data from the plurality of input ports to be stored in a buffer which is included in the plurality of buffers and has an available area in accordance with storage states of the plurality of buffers for each of the data types.

5.(previously presented): The transmission apparatus as claimed in claim 2, wherein:

the output window part includes a plurality of buffers for each of priority types and each of data types; and

the selection control circuit controls the switch part to cause the data from the plurality of input ports to be stored in a buffer which is included in the plurality of buffers and has an available area in accordance with storage states of the plurality of buffers for each of the priority types and each of the data types.

6. (original): The transmission apparatus as claimed in claim 2, wherein the data input to the input port part include an IP packet.

7. (original): The transmission apparatus as claimed in claim 2, wherein the input port part comprises label add parts which add labels to the plurality of input ports.

8. (original): The transmission apparatus as claimed in claim 2, wherein the output port part comprises a SONET frame assembly parts which assemble data read from the plurality of buffers into respective SONET frames, which are then supplied to the time division multiplexing part.

9. (original): The transmission apparatus as claimed in claim 2, wherein the output window part comprises simple SONET frame assembly parts which assemble data read from the plurality of buffers into respective SONET frames, which are then supplied to the time division multiplexing part.

10.(previously presented): The transmission apparatus as claimed in claim 2, further comprising an 8B/10B conversion part that converts multiplexed data from the time division multiplexing part into data having an 8B/10B conversion format for transmission.

11.(original): The transmission apparatus as claimed in claim 2, further comprising MAC delete/label add parts that delete MAC addresses from IP packets and add labels corresponding to the plurality of input ports to IP packets that are the data input to the input port part.

12.(original): The transmission apparatus as claimed in claim 2, further comprising:

label detection parts that detect labels added to a plurality of items of data obtained by subjecting a received signal to demultiplexing in the time division multiplexing;

a plurality of second buffers that store the plurality of items of data;

a second switch part making connections between the plurality of second buffers and the plurality of output ports; and

a second selection control circuit that controls the second switch part so that the plurality of items of data can be output via the output ports dependent on the labels detected.